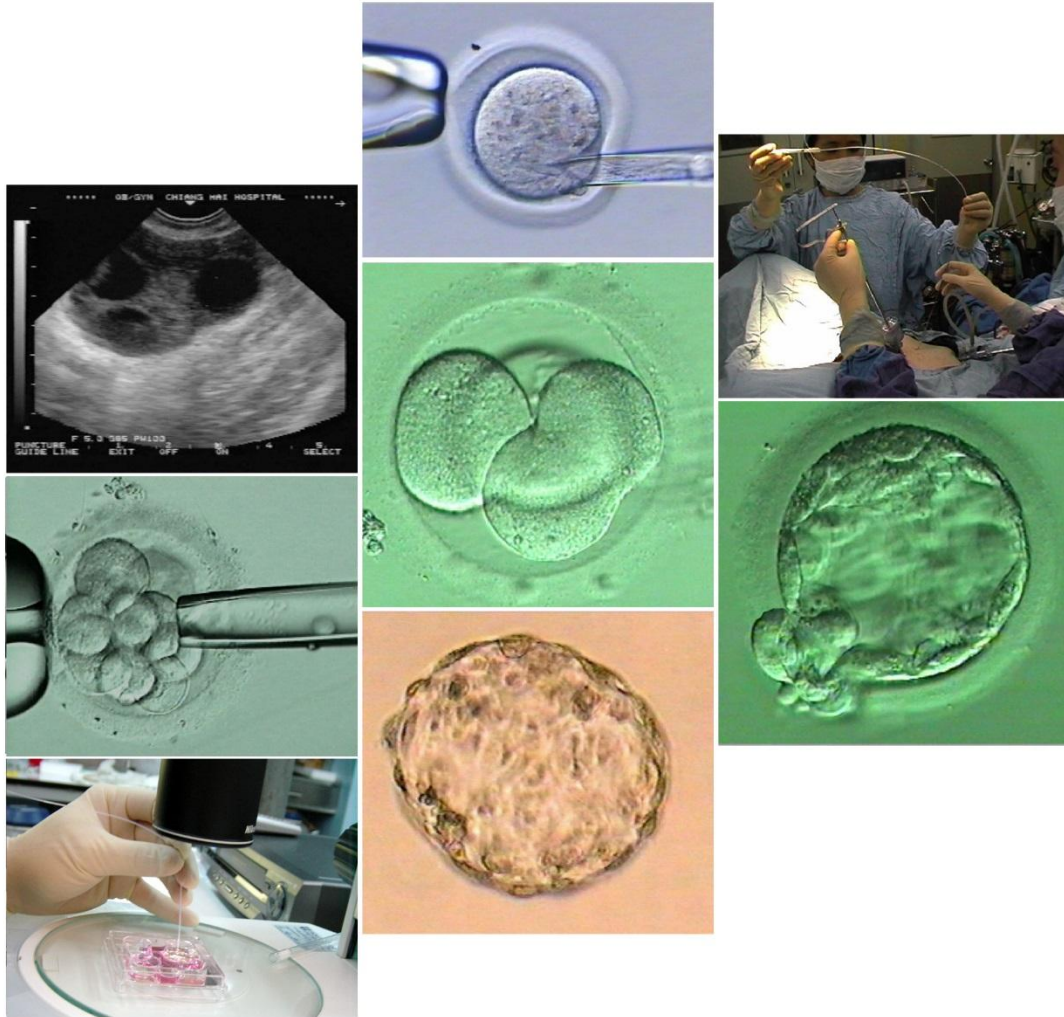


Annual Report

2024



Division of Reproductive Medicine
Department of Obstetrics & Gynecology
Faculty of Medicine, Chiang Mai University
Chiang Mai, Thailand

ANNUAL REPORT 2024

Division of Reproductive Medicine
Department of Obstetrics and Gynecology
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Chiang Mai, Thailand

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คณะแพทยศาสตร์
มหาวิทยาลัยเชียงใหม่

หัวหน้าหน่วย
อาจารย์ประจำหน่วย

อาจารย์พิเศษ
แพทย์หลักสูตรต่อยอด

พยาบาลประจำห้องตรวจ

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PART I**NUMBER OF ATTENDED PATIENTS IN 2024.**

- Infertile patients
- Gynecologic endocrine patients
- Endometriosis patients
- Transgender patients

I. Number of infertile patients

Month	New case (couples)	Ongoing case (couples /visits)
January	27	175
February	26	162
March	24	183
April	27	201
May	22	245
June	19	160
July	15	160
August	17	169
September	19	166
October	17	163
November	12	167
December	9	106
Total	234	2,057

Number

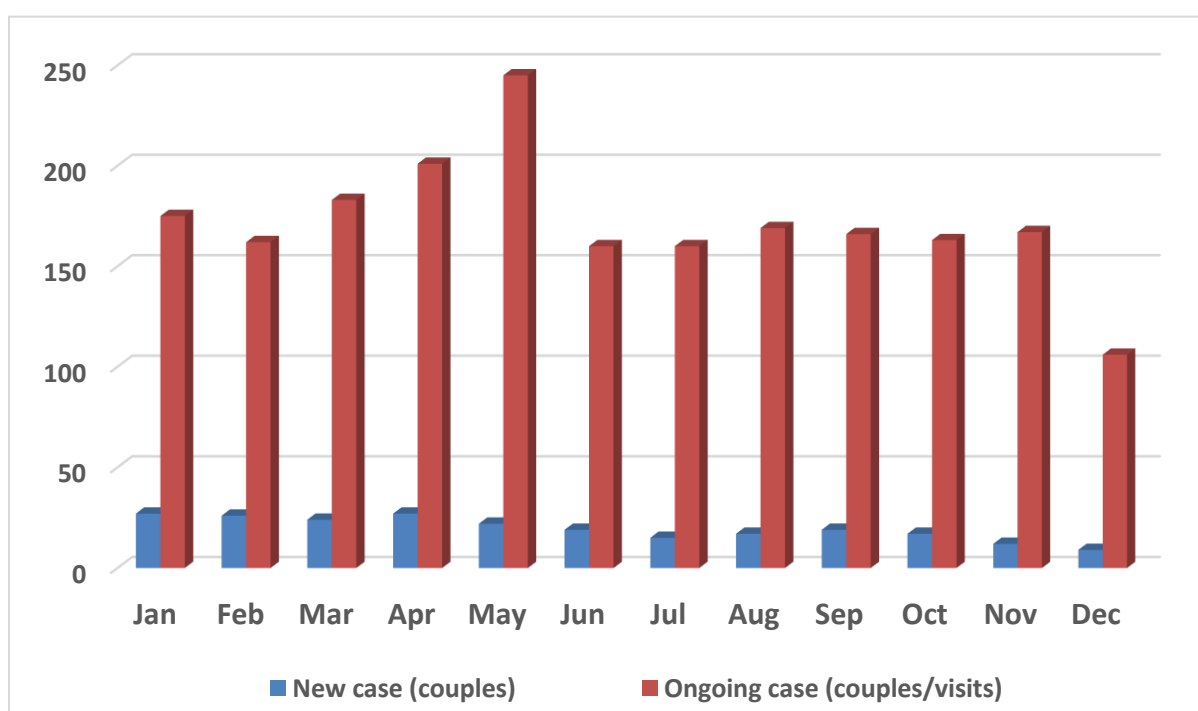


Figure I. Number of infertile couples per month

II. Number of gynecologic endocrine patients

Month	New case (cases)	Ongoing case (visits)
January	19	94
February	14	82
March	7	67
April	12	88
May	17	97
June	30	123
July	26	120
August	17	109
September	16	95
October	24	167
November	13	115
December	10	65
Total	205	1222

Number

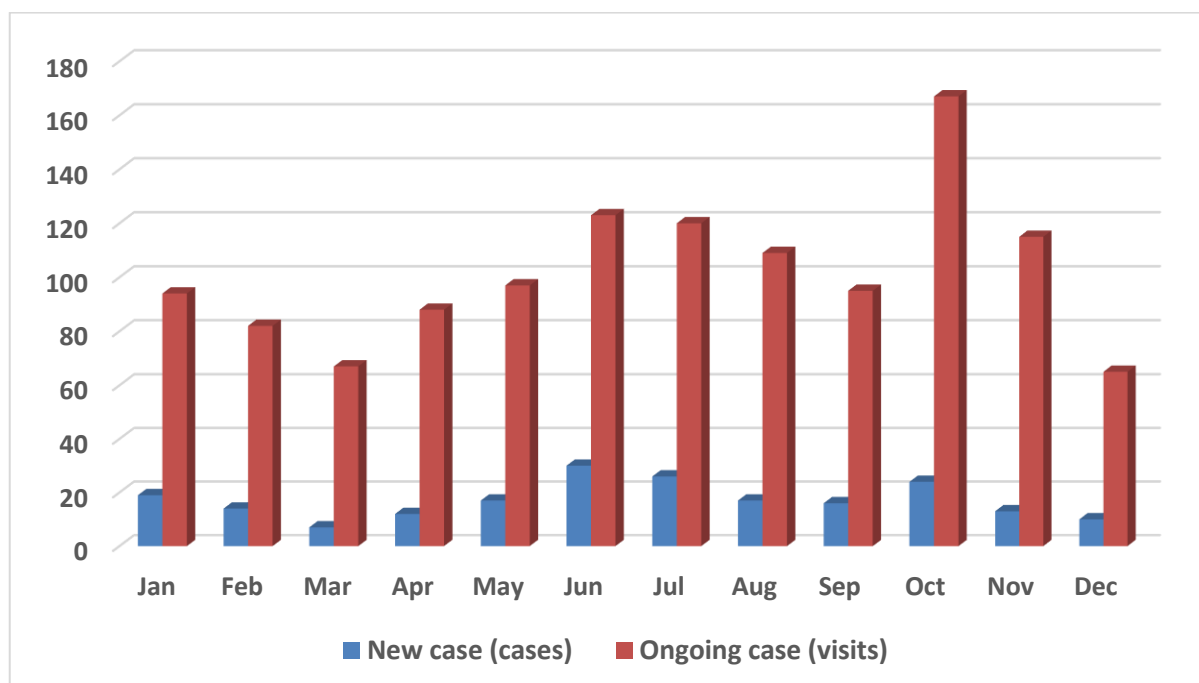


Figure II. Number of endocrine patients per month

III. Number of patients with history of endometriosis or pelvic mass

	New case (cases)	Ongoing case (visits)
January	15	154
February	20	157
March	14	99
April	24	113
May	38	129
June	23	79
July	29	101
August	27	115
September	20	116
October	29	136
November	23	107
December	30	126
Total	292	1432

Number

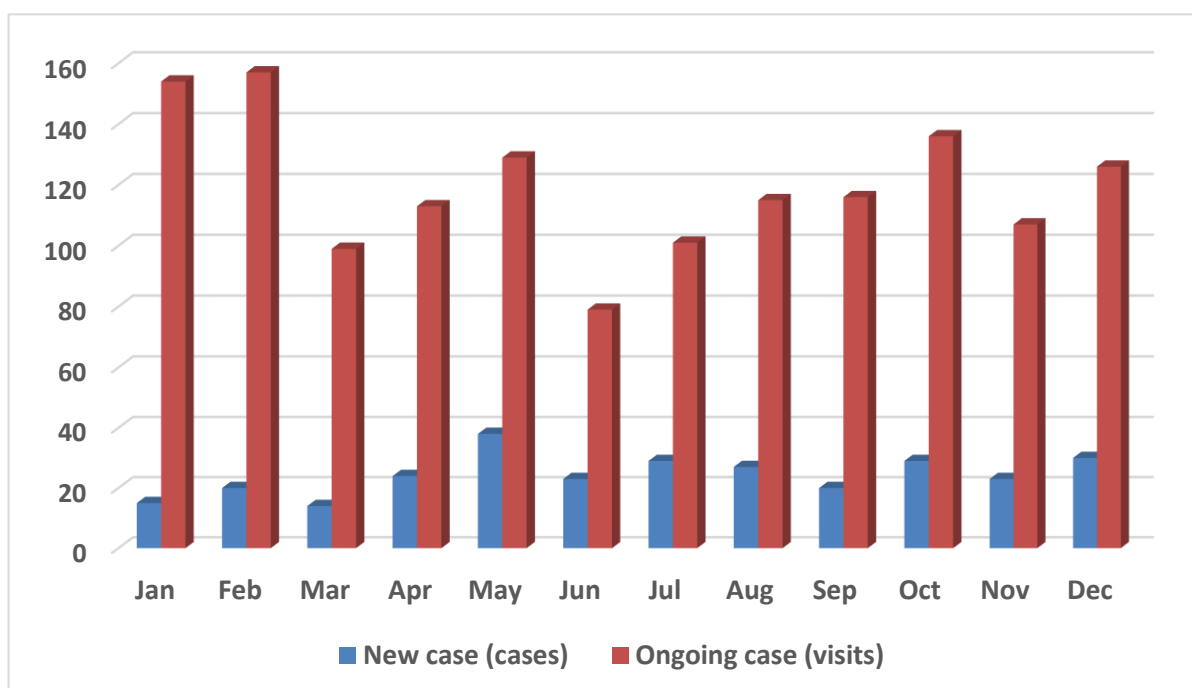


Figure III. Number of endometriosis or pelvic mass patients per month

VI. Number of Transgender patients

Month	New case (cases)	Ongoing case (visits)
January	1	2
February	4	3
March	1	5
April	1	4
May	1	12
June	6	18
July	2	17
August	4	13
September	3	17
October	1	22
November	0	21
December	3	12
Total	27	144

Number

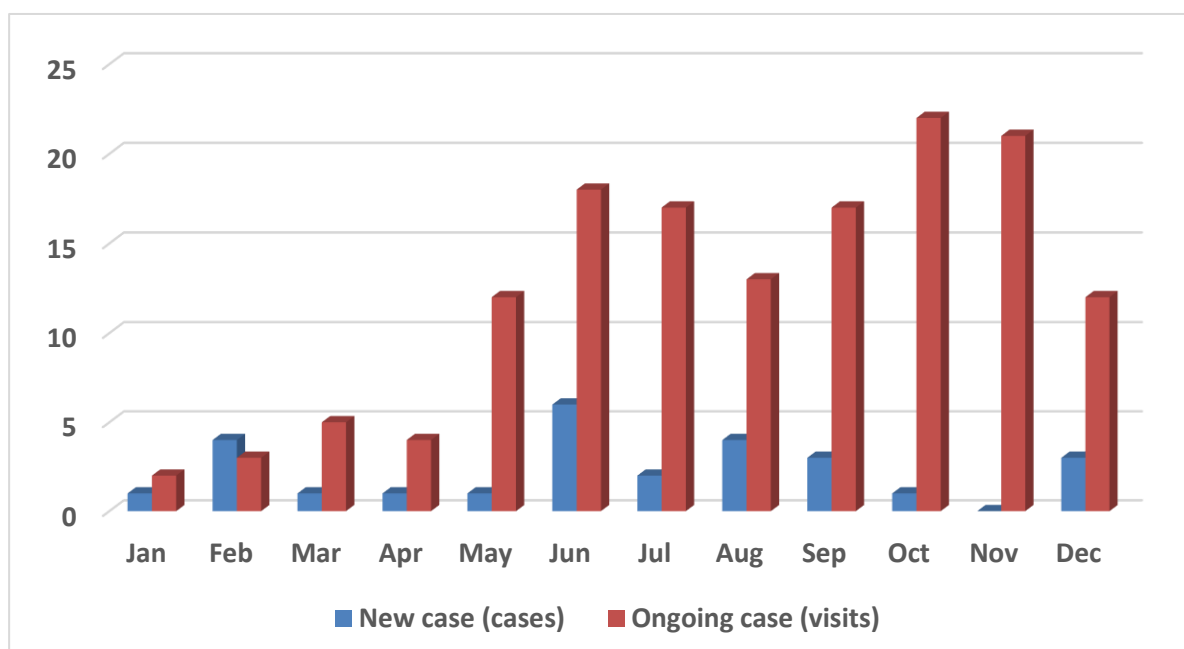


Figure IV. Number of Transgender patients per month

V. Number of patients with history of endometriosis or pelvic mass distributed by diagnosis

	New case (cases)	Ongoing case (visits)
Adenomyosis	14	158
Catamonal pneumothorax	0	2
Chronic Pelvic Pain	2	9
Dermoid Ovarian Cyst	17	39
Dysmenorrhoea	1	6
Es Endometriosis	115	450
Em Endometrioma	41	206
Endometrial Polyp	31	109
Hydrosalpinx	6	27
Intrauterine Adhesions	4	5
Myoma Uteri	42	333
Ovarian Cyst	16	68
Pelvic Adhesion	0	2
Submucous Myoma	1	15
Others	2	3
Total	292	1432

VI. Number of gynecologic endocrine patients distributed by diagnosis

Diagnosis	No. of cases	
	New case (cases)	On going (visits)
Hyper/hypoprolactinemia / Macro- or Micro-adenoma of pituitary gland / Galactorhea	10	119
PCOS	49	282
Anovulation	9	48
Oligomenorrhea	1	1
Primary amenorrhea	1	9
Secondary amenorrhea	17	57
Mullerian agenesis	3	4
Recurrent pregnancy loss/Recurrent implantation failure	2	20
Premature ovarian failure	21	95
Ectopic pregnancy	0	4
AUB / Hypermenorrhea	10	108
Gonadal dysgenesis	1	7
Turner's syndrome	3	36
Pituitary disorder	6	16
Uterine didelphys / Septate uterus / OVIRA	2	12
Hirsutism	0	3
Asherman syndrome	1	8
Labial agglutination	1	11
Hypogonadotrophic hypogonadism	1	15
Hypergonadotrophic hypogonadism	1	8
Transgender (female to male)	15	26
Transgender (male to female)	13	119
Perimenopause /Post menopause / Surgical menopause	17	160
Mccune albright syndrome	0	1
Kallman syndrome	0	3
Herlyn Werner syndrome	1	3
Infertility	4	17
Other	16	30
Total	205	1222

PART II

BASELINE CHARACTERISTICS , DIAGNOSIS AND TREATMENT OF INFERTILE CASES VISITED IN 2024

I. Age, duration of marriage & infertility

		Mean $\pm$ SD	Range
Age	Female (years)	33 $\pm$ 2.8	31 - 35
	Male (years)	37.5 $\pm$ 2.1	36 - 39
Duration of marriage (months)		144 $\pm$ 53.4	6 - 300
Duration of infertility (months)		60 $\pm$ 41.1	6 - 276

II. Infertility status

Status	Female (cases)	Male (cases)
Primary infertility	169 (70.1%)	178 (77.8%)
Secondary infertility	72 (29.9 %)	52 (22.2%)
Total	241	230

Percent

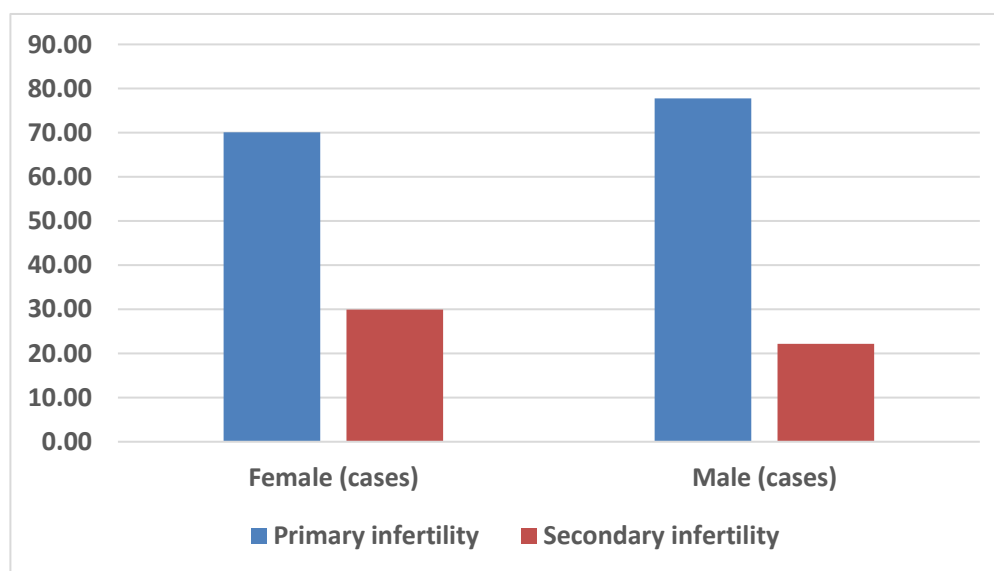


Figure V. Infertility status

III. Diagnosis of male partners

Diagnosis	Number	Percent
No demonstrable cause	101	43.9
Oligozoospermia	9	3.9
Azoospermia	3	1.3
Oligo-asthenozoospermia	45	19.6
Asthenozoospermia	43	18.7
Teratozoospermia	29	12.6
anti HIV positive	-	-
Total	230	100

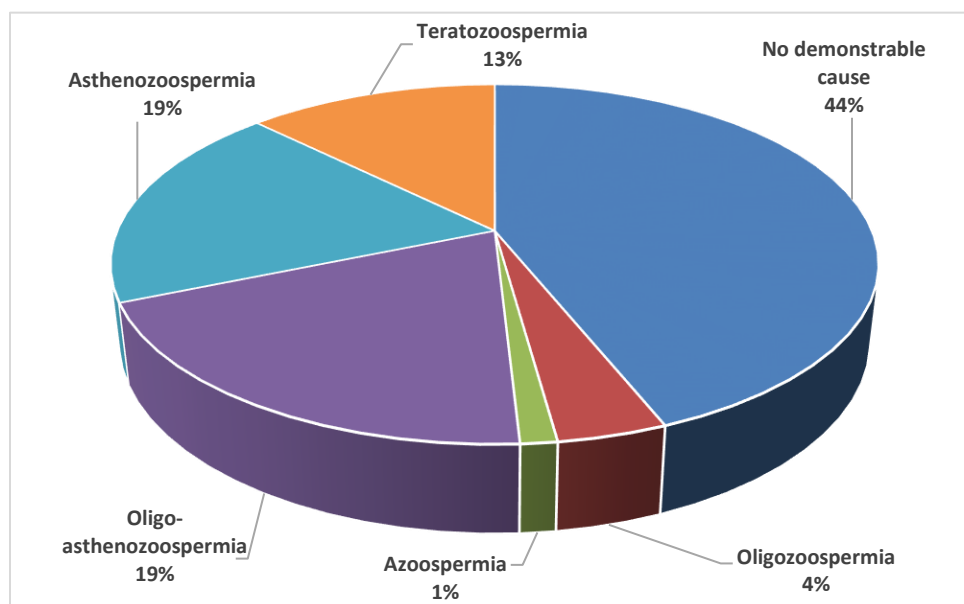


Figure VI. Diagnosis of male partners

IV. Distribution of A.R.T. Treatment

Treatment	Number (cycles)	Percent
Ovulation induction and timing sexual intercourse (OI + timing SI)	34	15.4
Intrauterine insemination (IUI)	75	33.9
Therapeutic insemination using frozen donor sperm (TDI)	5	2.3
In vitro fertilization (IVF)	16	7.2
Intracytoplasmic sperm injection (ICSI)	91	41.2
Oocyte freezing	-	-
Total cycles of treatment	221	100

Note : Fresh embryos transfer : 0 cycle

Frozen-thawed embryos transfer (FET) : 120 cycles

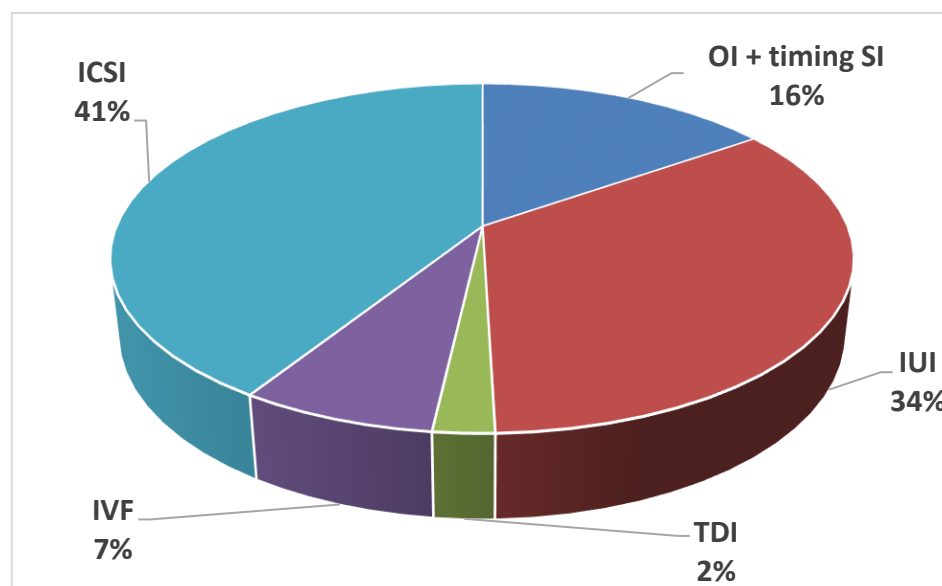


Figure VII. Percent of Infertility Treatments

V. Distribution of Embryo Transfer (ET) Cycle

Treatment	Number (cycles)	Percent
Fresh embryo transfer / IVF	-	-
Fresh embryo transfer / ICSI	-	-
Frozen-thawed embryo transfer / IVF	33	30.0
Frozen-thawed embryo transfer / ICSI	87	70.0
Total cycles of treatment	120	100

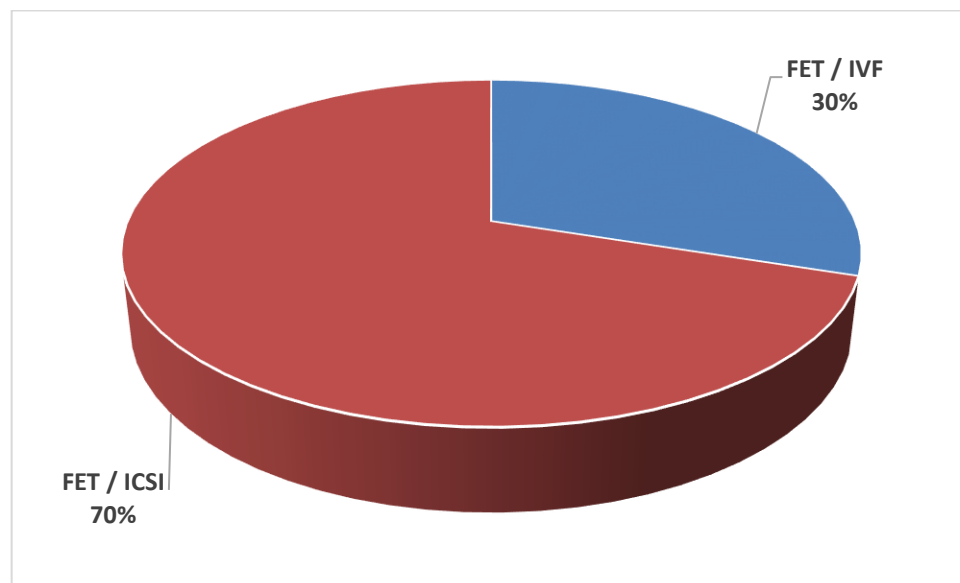


Figure VIII. Percent of embryo transfer treatments

VI. Number of A.R.T cycles per month and pregnancy rate

Month		IUI	TDI	IVF	ICSI	Oocyte freezing	FET/ IVF	FET/ ICSI
January		8	-	3	9	-	-	1
February		6	-	3	7	-	6	9
March		8	-	1	8	-	5	11
April		6	-	-	2	-	3	6
May		11	1	3	17	-	3	11
Jun		13	1	1	10	-	5	5
July		5	-	1	3	-	3	10
August		3	1	-	5	-	2	6
September		5	-	2	9	-	2	6
October		2	2	1	7	-	1	8
November		3	1	-	10	-	1	8
December		5	-	1	4	-	2	6
Total (cycles)		75	6	16	91	-	33	87
Fertilization rate (%)				64.0	72.1			
Thawed embryo survival rate (%)							97.3 %	93.4 %
Further thawed embryo development rate (%)	Cleavage						43 %	94.7 %
	Blast						51 %	92.2 %
Number of embryos transfer				-	-		43	99
Clinical pregnancy (case(s))		6	1	-	-	-	10	23
Number of gestational sac with fetal heart activity	1 sac	6	1	-	-	-	9	22
	2 sacs	-	-	-	-	-	1	1
Abortion (case(s))		-	-	-	-	-	2	1
Ectopic pregnancy (case)		-	-	-	-	-	-	-
Clinical pregnancy rate (%)	Total	8 % *	6 % *	-	-	-	27.8 % **	27.4 % **
	Good prognosis***	3.9 %					45.7 %	
	Poor prognosis***	10.9 %					20 %	

* pregnancy rate per stimulation cycle ** pregnancy rate per transferred cycle

***** A poor prognosis has been determined based on any one of the following criteria.**

ET case :

- BMI > 30 kg/m²
- IVF/IUI attempt > 2 cycles
- Recurrent implantation failure $\geq$ 3 times)
- Antral follicle count < 5 follicles and/or AMH < 1 ng/ml
- Poor ovarian reserve (oocyte retrieved < 3 follicles per cycle)
- Surgical sperm recovery sperm
- Poor prognosis underlying disease, ~~then~~ Poor controlled hypertension, Chronic renal failure, Received anti-viral medication
- Severe Oligozoospermia (<1 million/ml)
- Age $\geq$ 35 years

IUI case :

- Age $\geq$ 35 years
- BMI > 30 kg/m²
- $\geq$ 2 years trying to conceive
- Unknown tubal patency
- IUI attempt
- IVF attempt
- Poor prognosis underlying disease
- Motile sperm < 10 million/ml (before preparation)

PART III**ASISSTED REPRODUCTIVE TECHNOLOGY
LABORATORY REPORT**

I. In vitro fertilization (IVF) cycle

IVF cycle	mean $\pm$ SD (per cycle)	Range (per cycle)	Total (per year)
Age of patients (years)	34.2 $\pm$ 4.7	26 - 43	16 cycles
Number of oocyte retrieved	20.2 $\pm$ 12.8	2 – 53	364 oocytes
Number of normal fertilization	12.9 $\pm$ 10.1	0 - 39	233 oocytes
Normal fertilization rate			64.1 %
Number of cleavage stage embryo	14.8 $\pm$ 12.4	0 - 40	233 embryos
Cleavage rate			100 %
Number of embryo transfer	-	-	-
Number of embryo freezing	8.2 $\pm$ 7.6	0 - 30	131 embryos

II. Intracytoplasmic sperm injection (ICSI) cycle

ICSI cycle	mean $\pm$ SD (per cycle)	Range (per cycle)	Total (per year)
Age of patient (years)	38.3 $\pm$ 4.9	23 - 49	91 cycles
Number of oocyte retrieved	13.9 $\pm$ 10.9	1 - 59	1,264 oocytes
Number of M II oocytes retrieved	10.4 $\pm$ 9.0	0 - 53	945 oocytes
Number of normal fertilized embryos	7.6 $\pm$ 7.0	0 - 44	681 oocytes
Fertilization rate			72.06 %
Number of cleavage stage embryo	7.9 $\pm$ 7.9	0 - 44	666 embryos
Cleavage rate			97.8 %
Number of embryo transfer	-	-	- embryos
Number of embryo freezing	3.8 $\pm$ 3.8	0 - 18	348 embryos

III. Oocyte freezing cycle

OPU cycle	mean $\pm$ SD (per cycle)	Range (per cycle)	Total (per year)
Age of patient (years)	-	-	-
Number of oocyte retrieved	-	-	-
Number of M II oocytes retrieved and freezing	-	-	-

IV. Frozen thawed embryo transfer (FET) : IVF embryo

Frozen-thawed Embryo transfer cycle (FET)	mean $\pm$ SD (per cycle)	Range (per cycle)	Total (per year)
Age of patients (years)	36.2 $\pm$ 4.4	29 - 45	
Number of embryo thawing	2.1 $\pm$ 1.3	1 - 4	78
Number of embryo survived	2.0 $\pm$ 1.2	1 - 4	77
Thawed embryo survival rate (immediately)			98.7 %
Number of embryo transfer	1.2 $\pm$ 0.4	1 - 2	43
Number of embryo freezing back			0
Further cleavage rate after thawing			43.1 %

V. Frozen thawed embryo transfer (FET) : ICSI embryo

Frozen-thawed Embryo transfer cycle (FET)	mean $\pm$ SD (per cycle)	Range (per cycle)	Total (per year)
Age of patient (years)	37.2 $\pm$ 4.7	24 - 47	
Number of embryo thawing	1.6 $\pm$ 0.9	1 - 6	135
Number of embryo survived	1.5 $\pm$ 1.6	1 - 4	126
Thawed embryo survival rate (immediately)			93.3 %
Number of embryo transfer	1.2 $\pm$ 0.4	1- 2	99
Number of embryo freezing back			1
Further cleavage rate after thawing			51 %

VI. Pregnancy outcome by type of A.R.T. and age group of female patients

a. Fresh embryos transfer cycle (IVF cycle)

Age (years)	Number of OPU cycle	Number of ET cycle	Chemical Pregnancy	Clinical Pregnancy	Abortion
<34	7	-	-	-	-
≥34-39	8	-	-	-	-
≥40	1	-	-	-	-
total	16	-	-	-	-

b. Fresh embryos transfer cycle (ICSI cycle)

Age (years)	Number of OPU cycle	Number of ET cycle	Chemical Pregnancy	Clinical Pregnancy	Abortion
<34	15	-	-	-	-
≥34-39	38	-	-	-	-
≥40	38	-	-	-	-
total	91	-	-	-	-

c. Frozen embryos transfer cycle (IVF embryo)

Age (years)	Number of ET cycle	No Pregnancy	Chemical Pregnancy	Clinical Pregnancy		Abortion
				Single ton	twin	
<34	12	9	2	5	-	-
≥34-39	11	7	2	3	1	-
≥40	10	6	-	1	-	1
total	33	22	4	9	1	1

d. Frozen embryos transfer cycle (ICSI embryo)

Age (years)	Number of ET cycle	No Pregnancy	Chemical Pregnancy	Clinical Pregnancy		Abortion
				Single ton	twin	
<34	18	8	2	8	-	-
≥34-39	39	25	1	11	1	1
≥40	27	22	2	3	-	1
total	87	55	5	22	1	2

VII. Pregnancy outcome of total FET by prognostic factors of female and male patients

	Number of Pregnancy (%)	Number of Not Pregnant (%)	Total
Good prognosis	16 (45.7%)	19 (54.3%)	35
Poor prognosis	17 (20%)	68 (80%)	85
Total	33 (27.5%)	87 (72.5%)	120

PART VI**ENDOSCOPIC PROCEDURES
&
OTHER SURGERIES**

I. Number of hysteroscopic procedures

Hysteroscopic procedure / Diagnosis	Number
Hysteroscopic endometrial polypectomy	18
Hysteroscopic myomectomy (+/- polypectomy)	72
Hysteroscopic IUD removal	1
Hysteroscopic resection of intrauterine adhesion / septum / OHVIRA	9
Hysteroscopic examination in :	
# AUB / post-monopausal bleeding patients	5
# Secondary amenorrhea	1
# Intrauterine adhesion	1
# patient with history of recurrent pregnancy loss/recurrent implantation failure	16
# R/O Cervical canal stenosis	1
# Second look post hysteroscopic lysis adhesion	1
# Prolapsed submucous myoma uteri s/p vg myomectomy	2
# OHVIRA c obstructed Lt hemivagina	1
Total	128

Number

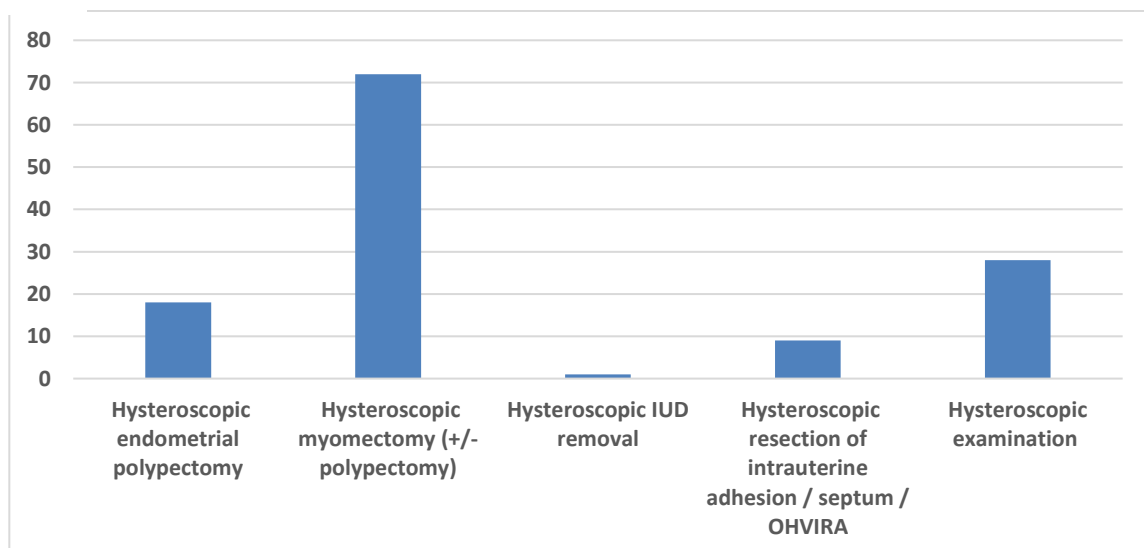


Figure IX. Number of hysteroscopic procedures

II. Number of laparoscopic procedures

Procedure	Diagnosis/finding	Number
Laparoscopic uni/bilateral cystectomy +/- dye test	# Endometrioma / Dermoid cyst /adnexal mass / ovarian cyst # Par tubal cyst with uterine didelphys # Rupture Ovarian cyst # Ovarian teratoma	32 1 1 1
Laparoscopic cystectomy +/- dye test & fimbryoplasty	Complex cyst with tubal obstruction / Endometrioma	1
Laparoscopic ovarian cystectomy & salpingectomy & dye test	Endometrioma with hydrosalpinx	3
Laparoscopic ovarian cystectomy with salpingo-oophorectomy +/- dye test	Endometrioma / Dermoid cyst	2
Laparoscopic ovarian cystectomy with myomectomy	Endometrioma with adenomyoma/Ovarian cyst & myoma uteri	2
Laparoscopic salpingectomy +/- dyetest +/- lysis adhesion	# Hydrosalpinx # tubal pregnancy # Adnexal mass with Hx. TOA # OHVIRA with horn obstruction # Complete family	5 3 1 1 1
Laparoscopic fimbryoplasty & salpingectomy & dye test	Hydrosalpinx	1
Laparoscopic uni/bilateral Salpingo-Oophorectomy	Endometrioma/ ovarian cyst / dermoid cyst	6
Laparoscopic myomectomy with Salpingo-Oophorectomy	Adnexal mass	1
Laparoscopic tubal re-anastomosis	Post TR	1
Laparoscopic myomectomy & (+/- dye test +/- lysis adhesion +/- other procedure)	Myoma uteri	6

Procedure	Diagnosis/finding	Number
TLH	Adenomyosis	1
TLH & bilateral salpingectomy	Endometrioma/ Adenomyosis / Myoma uteri/Mental retard/ Gender dysphoria/ Glanzman thrombocytopenia c HMB	17
TLH & ovarian cystectomy	Endometriosis	1
TLH & bilateral salpingectomy & ovarian cystectomy	Myoma uteri/ Ovarian cyst / Dermoid cyst	4
TLH & uni/bilateral salpingo - oophorectomy	OV cyst / adenomyosis / Endometrioma/ Post MP with hick ET	8
Total		100

Number

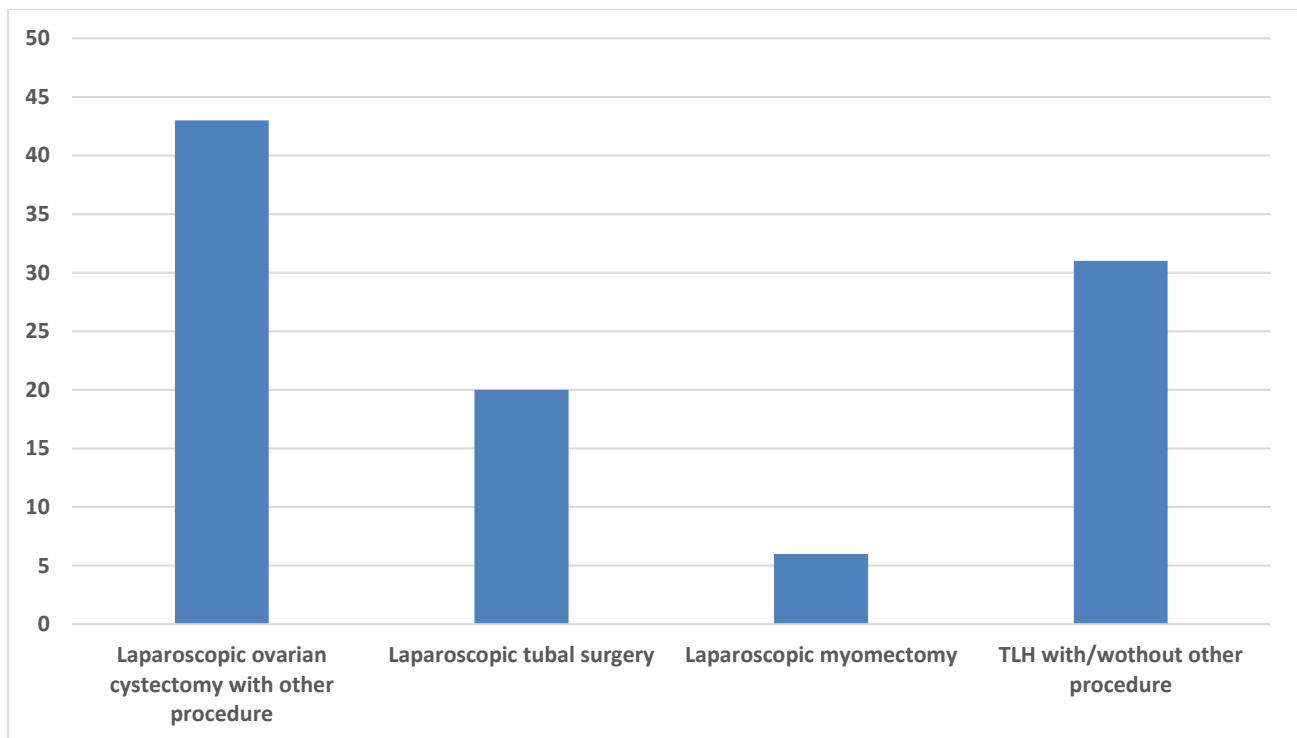


Figure X. Number of laparoscopic procedures

III. Number of explore laparotomy procedures

Procedure	Diagnosis / finding	Number
Explore lap to myomectomy +/- dye test	Myoma uteri	10
Explore lap to unilateral / bilateral salpingectomy	Ruptured tubal pregnancy / Hydrosalpinx	2
Explore lap to unilateral / bilateral salpingo-oophorectomy +/- lysis adhesion	Dermoid cyst / Endometrioma	5
Explore lap to bilateral ovarian cystectomy +/- lysis adhesion	Endometrioma / Ovarian cyst	2
Explore lap to ovarian cystectomy with salpingectomy	Endometrioma with hydrosalpinx	1
Explore lap to ovarian cystectomy with myomectomy	Myoma uteri / Endometrioma	3
TAH & bilateral salpingo - oophorectomy	Myoma uteri	6
TAH & bilateral salpingectomy	Myoma uteri	4
Explore lap to wedge resection	Cornual pregnancy	1
Explore lap for stop bleeding	Rupture ovarian cyst	1
Total		35

Number

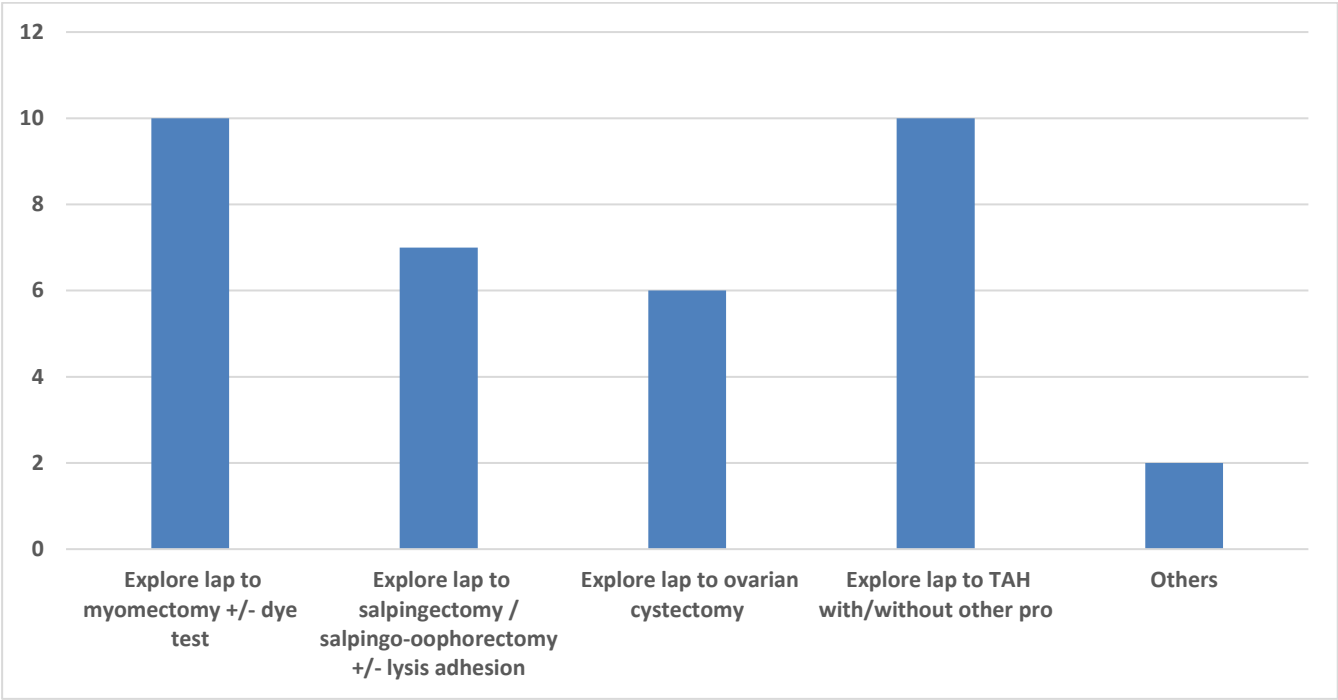


Figure XI. Number of explore laparotomy procedures